

CLAIMS

1. A secondary battery comprising an electrode group, an electrolyte, a battery case for accommodating therein said electrode group and said electrolyte, and a current collector plate positioned at the bottom of said battery case, wherein

said electrode group is formed by winding a positive electrode and a negative electrode with the interposition of a separator,

said positive electrode comprises a belt-shaped positive electrode core and a positive electrode material mixture carried on said positive electrode core,

said negative electrode comprises a belt-shaped negative electrode core and a negative electrode material mixture carried on said negative electrode core,

at least one of said positive electrode and said negative electrode has an end portion parallel to the lengthwise direction thereof exposing said core,

said end portion positioned at an end face of said electrode group is directly connected to said current collector plate, and

at least part of said current collector plate is exposed outside at the bottom of said battery case.

2. The secondary battery in accordance with claim 1, wherein said current collector plate serves as the bottom of said battery case.

3. The secondary battery in accordance with claim 2, wherein said battery case comprises a cylindrical part, one of the openings of said cylindrical part is closed by said current collector plate and an end of said cylindrical part around said opening is welded to the periphery of said current collector plate.

4. The secondary battery in accordance with claim 1, wherein said battery case comprises a cylindrical part with a bottom, said cylindrical part with the bottom has a through hole in the bottom, said current collector plate is provided with a protrusion to be fitted in said through hole and said protrusion is welded to the edge around said through hole.

5. The secondary battery in accordance with claim 1, wherein said current collector plate has a thickness of 0.1 mm or more and 0.7 mm or less.

6. The secondary battery in accordance with claim 1, wherein said current collector plate is connected to said negative electrode and said current collector plate is made of a nickel plate or a nickel-plated metal plate.

7. The secondary battery in accordance with claim 1, wherein said current collector plate is connected to said positive electrode and said current collector plate is made of an aluminum plate, a nickel-chromium steel plate or an alloy plate mainly composed of aluminum.

8. The secondary battery in accordance with claim 1, wherein said electrolyte comprises a nonaqueous solvent and a

solute dissolved in said nonaqueous solvent.

9. A secondary battery comprising an electrode group, an electrolyte, a battery case for accommodating therein said electrode group and said electrolyte, and a current collector plate positioned at the bottom of said battery case, wherein

said electrode group is formed by winding a positive electrode and a negative electrode with the interposition of a separator,

said positive electrode comprises a belt-shaped positive electrode core and a positive electrode material mixture carried on said positive electrode core,

said negative electrode comprises a belt-shaped negative electrode core and a negative electrode material mixture carried on said negative electrode core,

said positive electrode has an end portion A parallel to the lengthwise direction thereof exposing said positive electrode core,

said negative electrode has an end portion B parallel to the lengthwise direction thereof exposing said negative electrode core,

said end portions A and B are positioned at one and the other end faces of said electrode group, respectively,

said end portion A or B is directly connected to said current collector plate, and

at least part of said current collector plate is exposed outside at the bottom of said battery case.